

647.9414

Work Order ID 115733

B115733

115733

Page 1

April-04-14 10:18:00 AM

Item ID: 647.9414

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Lower Deflector, Long Tip

Start Date: 4/04/14 Start Qty: 20.00

20

Cust Item ID:

Required Date: 4/04/14 Req'd Qty: 20.00

20

Customer:

Reference:

Approvals:

Process Plan: MLJDate: 4-04-08

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
647.9400	B								

100

0.00

100

BAND SAW

Bandsaw

Memo

0.00

Jeaspa Bandsaw

Cut Blank at 8.000"

21

✓

DAS

25

9-89

14-5-25

110

0.00

110

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

1-Machine per folio FB240

DWG REV: BFOLIO REV: AA

21

✓

DAS

25

9-89

14-5-26

2- deburr and break all sharp edges

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre.									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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Work Order ID 115733

April-04-14 10:18:00 AM

115733

Page 2

Item ID: 647.9414 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Lower Deflector, Long Tip
 Start Date: 4/04/14 Start Qty: 20.00 ***20*** Cust Item ID:
 Required Date: 4/04/14 Req'd Qty: 20.00 ***20*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC2- Inspect parts off machine FAI/FAIB	0.00							DAS
120						21	0		25 14-5-26
QC	Memo	0.00							9-89
Quality Control									
130	QC8- Inspect parts - second check	0.00							DAS
130						21	0		14 9-89
QC	Memo	0.00							14/05/26
Quality Control									
140	Outsource process-Anodize per QSI017 4.1.10.1	0.00							
140									
Outsource4	Memo	0.00							
Outsource process - Anodize	Issue P/O to ATG : <u>24408</u>								
	1- Black Anodize as per Dwg 647.9400								
	2- PRIME AS PER DWG, SEE NOTE #7								
	Certification of Conformity is required								

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other _____ _____ _____
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Work Order ID 115733***115733***

Page 4

April-04-14 10:18:00 AM

Item ID: 647.9414

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Lower Deflector, Long Tip

Start Date: 4/04/14

Start Qty: 20.00

20

Cust Item ID:

Required Date: 4/04/14

Req'd Qty: 20.00

20

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

QC21- Final Inspection - Work Order Release

0.00

190

QC

Memo

0.00

Quality Control

MLJ 14-06-10

MF
14-6-10

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
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Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence
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		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other

Picklist Print

April-04-14 10:17:59 AM

Page 1

Work Order ID: 115733

115733

Parent Item: 647.9414

647 9414

Parent Item Name: Lower Deflector, Long Tip

Start Date: 4/04/14

Required Date: 4/04/14

Start Qty: 20.00

Required Qty: 20.00

Comments: IPP REV. A NEW ISSUE JFS 13/12/17 VERIFY BY: JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

M7075T6B0.750X2.500

Purchased

No

100

f

7.9000

0.667

15

M7075T6B0 750X2 500

**DAS
25
5-89**

14-5-26

7075-T6 BAR 0.750" X 2.500"

Location

Loc Qty

Loc Code

MAT

7.9

m127860 x 11

7.9

129237 x 9

7.9

6.05

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
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Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design		85							
Doc/Data		80							
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence
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<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other		

APICAL

INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO.

04389

SHEET 1 OF 1

DWG NO. 647.9400

REV: A

PREPARED BY J. SOTO

DATE: 01/28/2014

EFFECT ON DWG
☒ INC. ☐ UNINC.

DWG TITLE: DEFLECTORS

APPROVED BY: ENGR *[Signature]*

MFG *[Signature]*

QC *[Signature]*

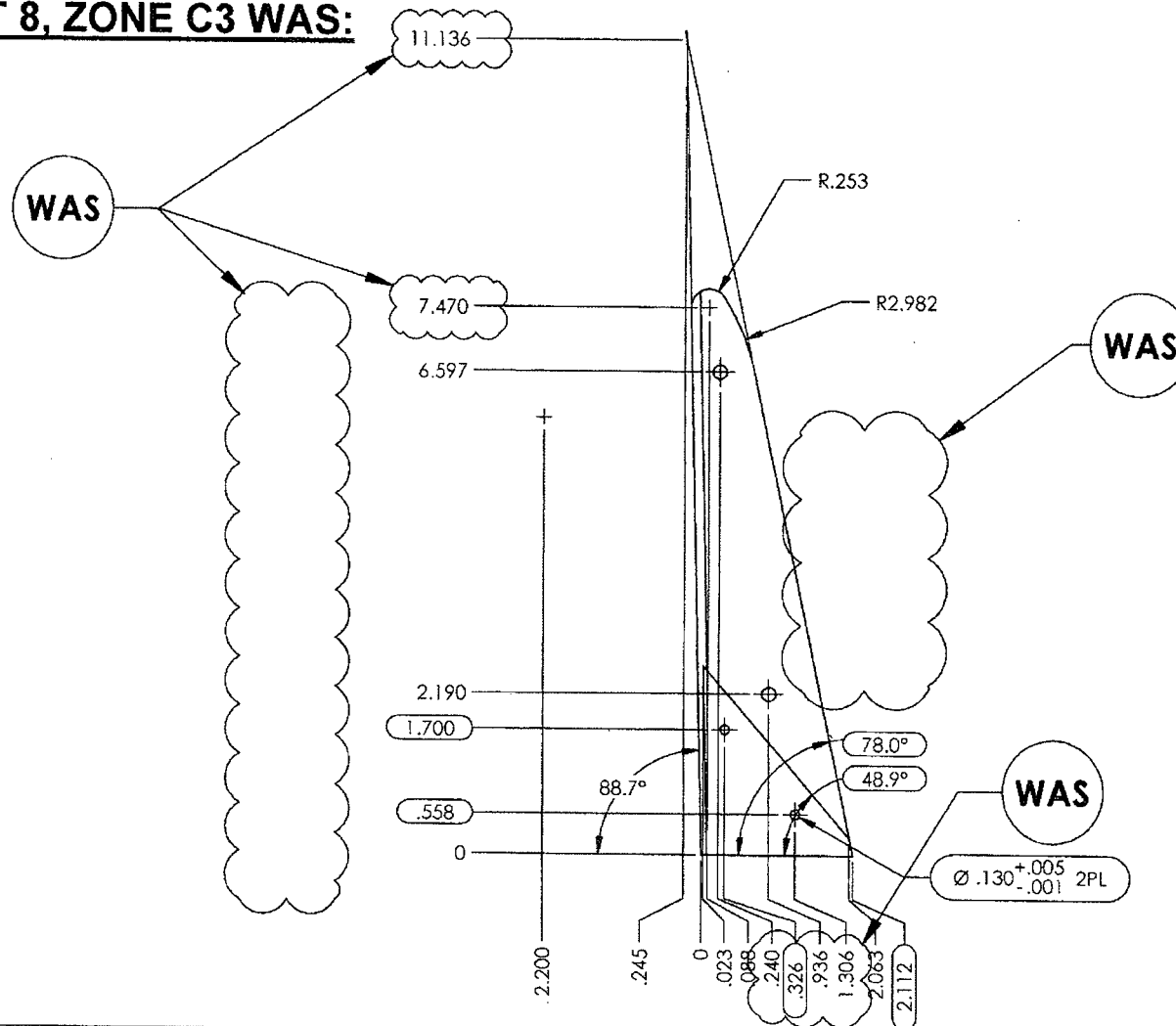
EFF. NEXT ORDER

TRANSACTION CODES (TC):
 A-ADD C-CREATE
 R-REVISE D-DELETE

REASON: REVISED, ADDED, & DELETED INSPECTION DIMENSIONS TO 647.9414.

ECR: D-14-01

SHEET 8, ZONE C3 WAS:



SHOP COPY
 RETURN TO
 ENGINEERING
 UNCONTROLLED COPY
 SUBJECT TO AMENDMENT
 WITHOUT NOTICE
 WORK ORDER
 NO. 1157-33. MJS
 14-04-08

DOCUMENTS EFFECTED:

☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM

CHANGE CATEGORY

☐ MAJOR ☒ MINOR

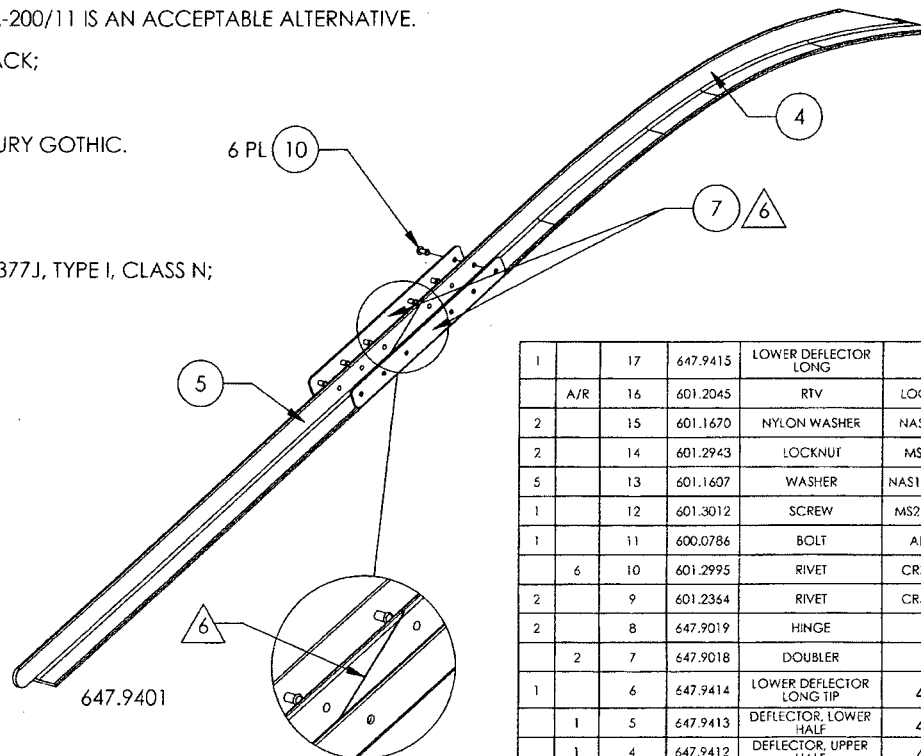
DER REVIEW REQUIRED

☐ YES ☒ NO

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NOTES: UNLESS OTHERWISE SPECIFIED

- 1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12. AMS-QQ-A-200/11 IS AN ACCEPTABLE ALTERNATIVE.
- 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK;
3. DE BURR AND BREAK ALL SHARP EDGES.
4. IDENTIFY IAW MPP-120. LASER ETCH P/N AND REVISION, 12 PT. CENTURY GOTHIC.
5. ALL DIMENSIONS SHOWN PRIOR TO FINISH.
- 6 APPLY F/N 17 TO FAYING SURFACES.
- 7 FINISH: PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J, TYPE I, CLASS N; 1-2 MIL MAX. APPLY FINISH AFTER ASSEMBLY.
- 8 TORQUE 15-20 IN.-LBS.
- 9 DIMENSION SHOWN IS FOR INSPECTION AFTER FINISHING.

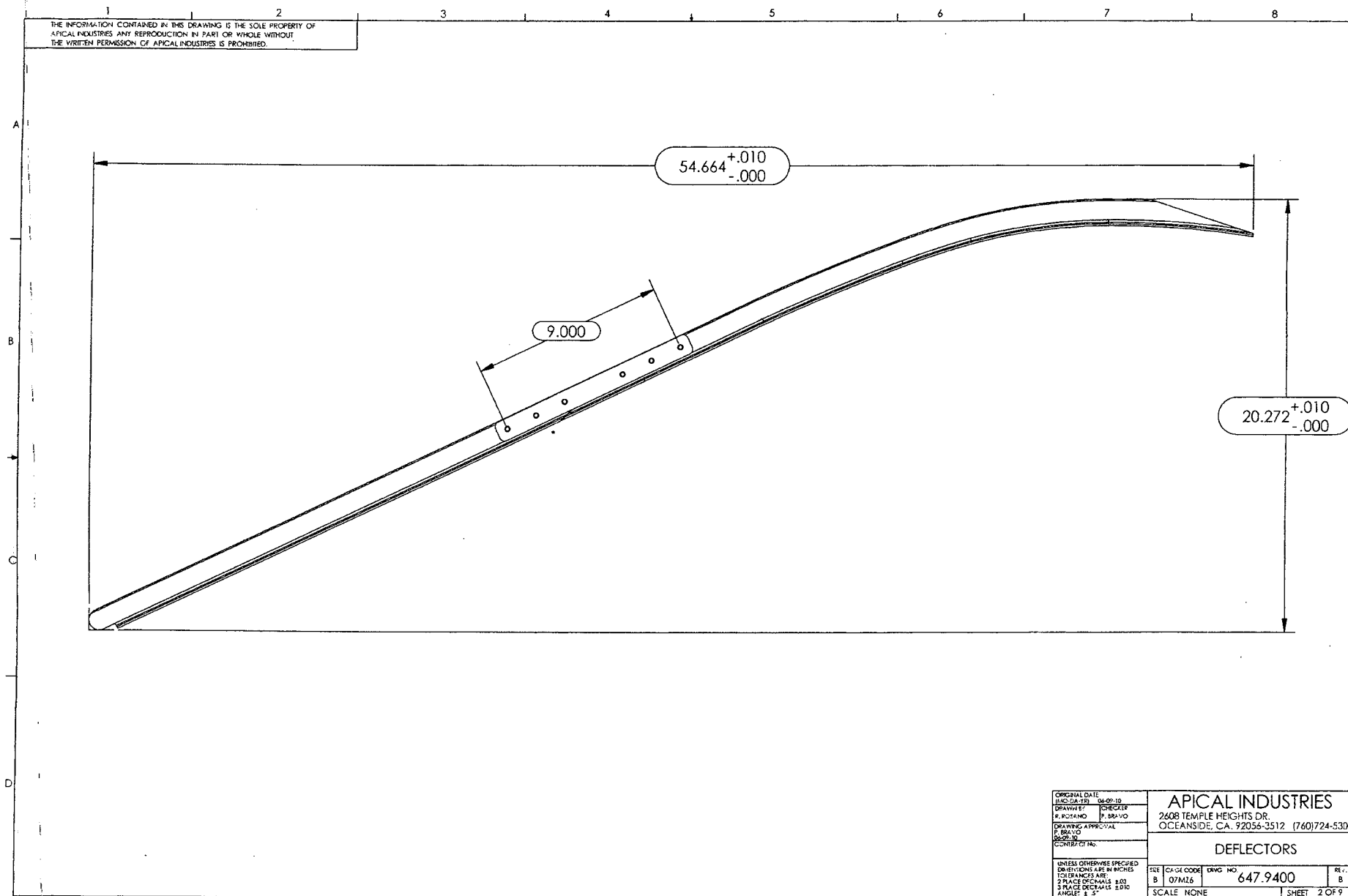


REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
1	LAST PROTOTYPE RELEASE (P/N)		
2	INITIAL RELEASE	06-09-10	P. BRAYNO
3	INCORPORATE ECH C0307, C0345, C0315 & C0344	10-23-12	J. GARDNER
4	INCORPORATE ECH C0379, C0772, C4220 & C4585	01-28-14	P. BRAYNO

1		17	647.9415	LOWER DEFLECTOR LONG		
	A/R	16	601.2045	RTV	LOCTITE 598	
2		15	601.1670	NYLON WASHER	NAS1515H3L	
2		14	601.2943	LOCKNUT	MS21042-3	
5		13	601.1607	WASHER	NAS1149F0332P	
1		12	601.3012	SCREW	MS27039-1-15	
1		11	600.0786	BOLT	AN3C7A	
	6	10	601.2995	RIVET	CR3213-6-6	
2		9	601.2364	RIVET	CR3213-4-8	
2		8	647.9019	HINGE		
	2	7	647.9018	DOUBLER		
1		6	647.9414	LOWER DEFLECTOR LONG TIP	△	△ △
1		5	647.9413	DEFLECTOR, LOWER HALF	△	△
1		4	647.9412	DEFLECTOR, UPPER HALF	△	△
1		3	647.9501	QUICK RELEASE PIN ASSY		
		2	647.9411	UPPER DEFLECTOR	△	△ △
		1	647.9410	LOWER DEFLECTOR	△	△ △
×			647.9402	LOWER DEFLECTOR LONG ASSY		
×			647.9401	DEFLECTOR ASSY		△
9402, 9401	FIND #	PART #	DESCRIPTION	MAT'L	SPEC.	

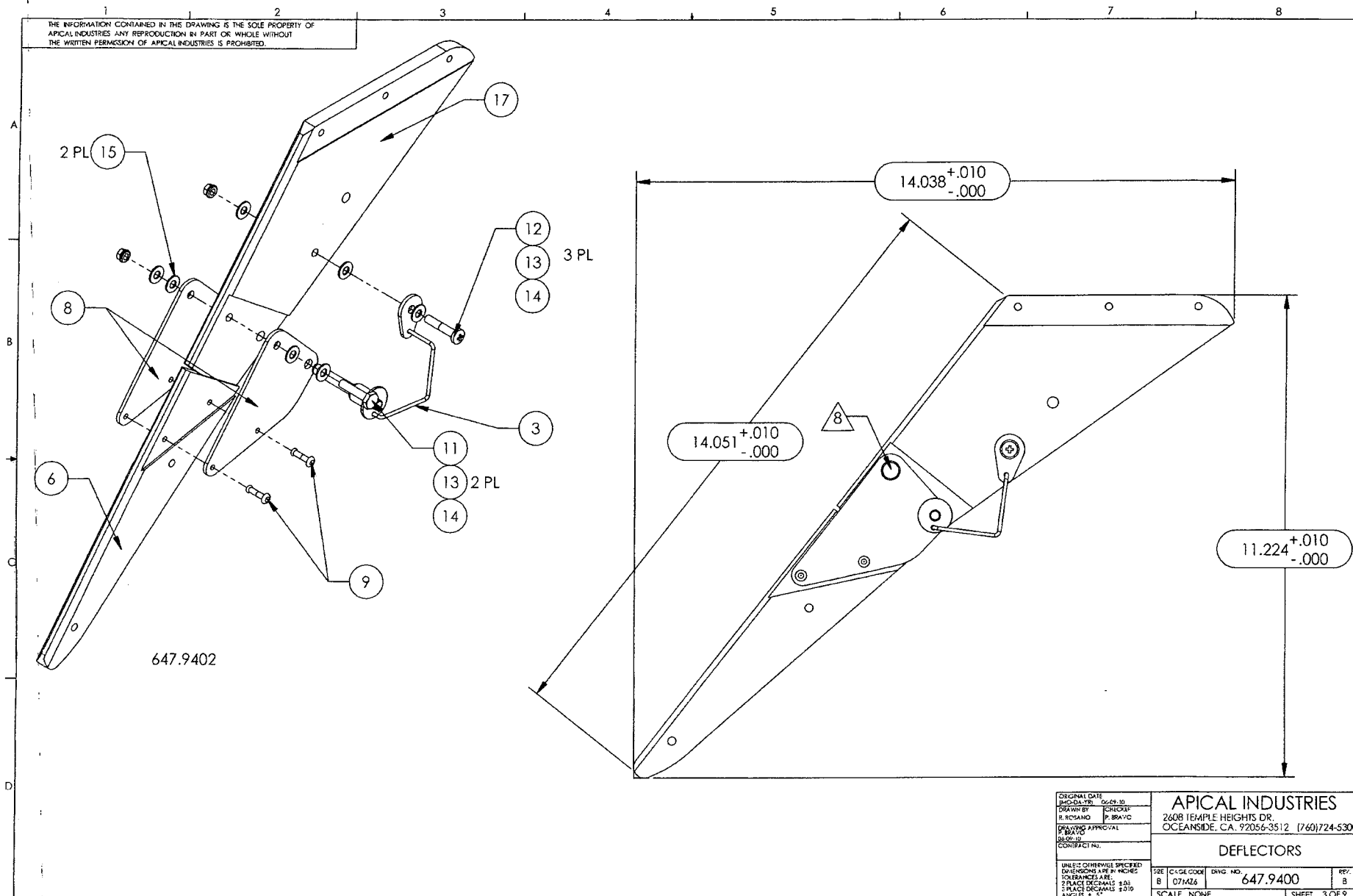
QTY		OFFICIAL DATE		PARTS LIST	
NEXT ASSY (S)		DRAWN BY		APICAL INDUSTRIES	
647.8900		CHECKED		2608 TEMPLE HEIGHTS DR.	
647.9200		P. BRAYNO		OCEANSIDE, CA. 92056-3512 (760)724-5300	
		UNLESS OTHERWISE SPECIFIED		DEFLECTORS	
		DIMENSIONS ARE IN INCHES		REV. NO. 647.9400	
		TOLERANCES ARE:		SCALE NONE	
		2 PLACE DECIMALS ±.01		SHEET 1 OF 9	
		3 PLACE DECIMALS ±.005			
		ANGLES ±.5°			

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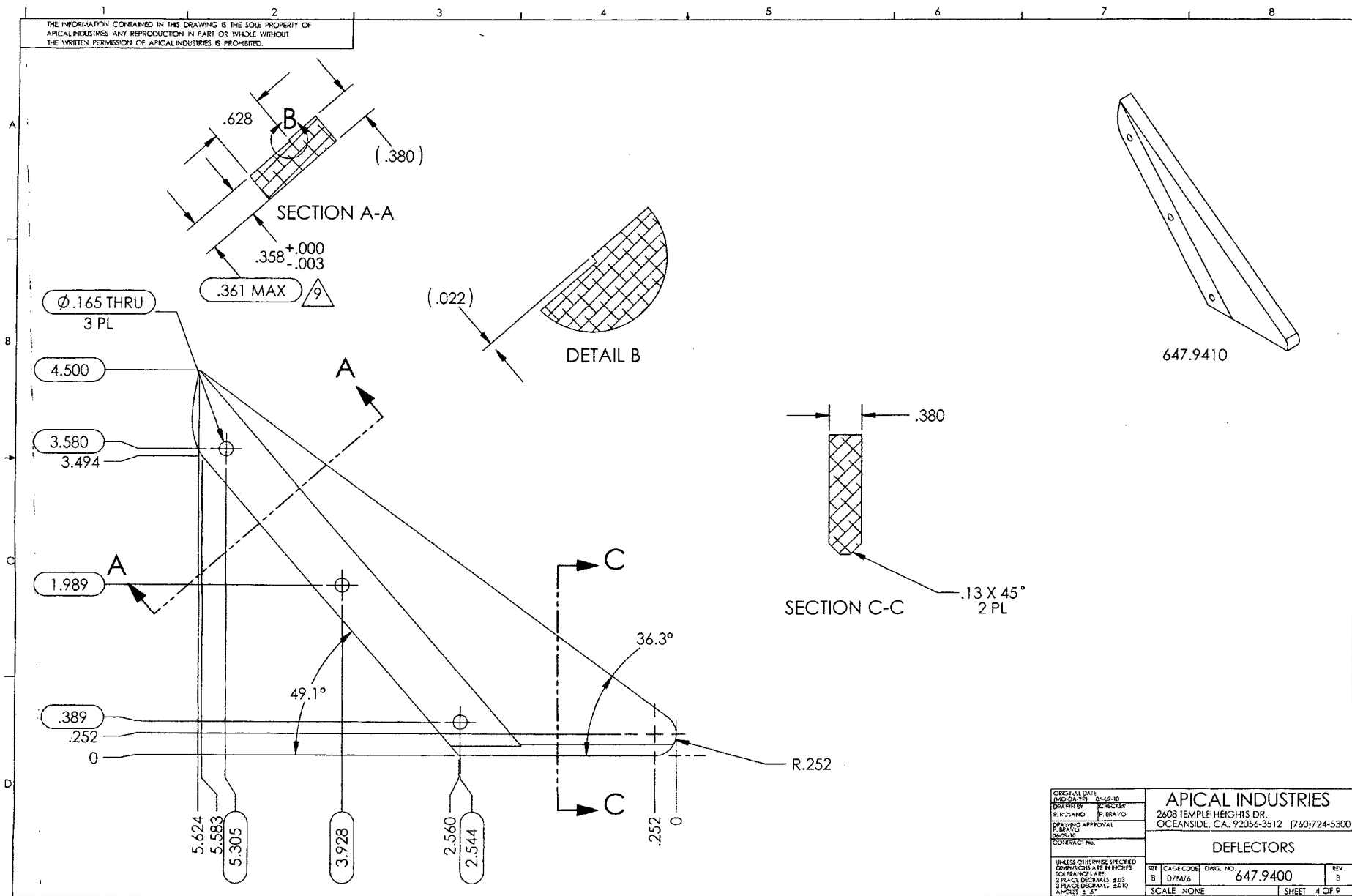
ORIGINAL DATE (MM-DD-YY) 06-09-19		APICAL INDUSTRIES	
DRAWN BY W. POTLAND	CHECKED P. BRAVO	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL P. BRAVO		DEFLECTORS	
SCALE 1/8" = 1'			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.03 3 PLACE DECIMALS ±.010 ANGLES ±.5°		SIZE B	REV. B
		CAGE CODE 07M16	DWG NO. 647.9400
		SCALE NONE	SHEET 2 OF 9

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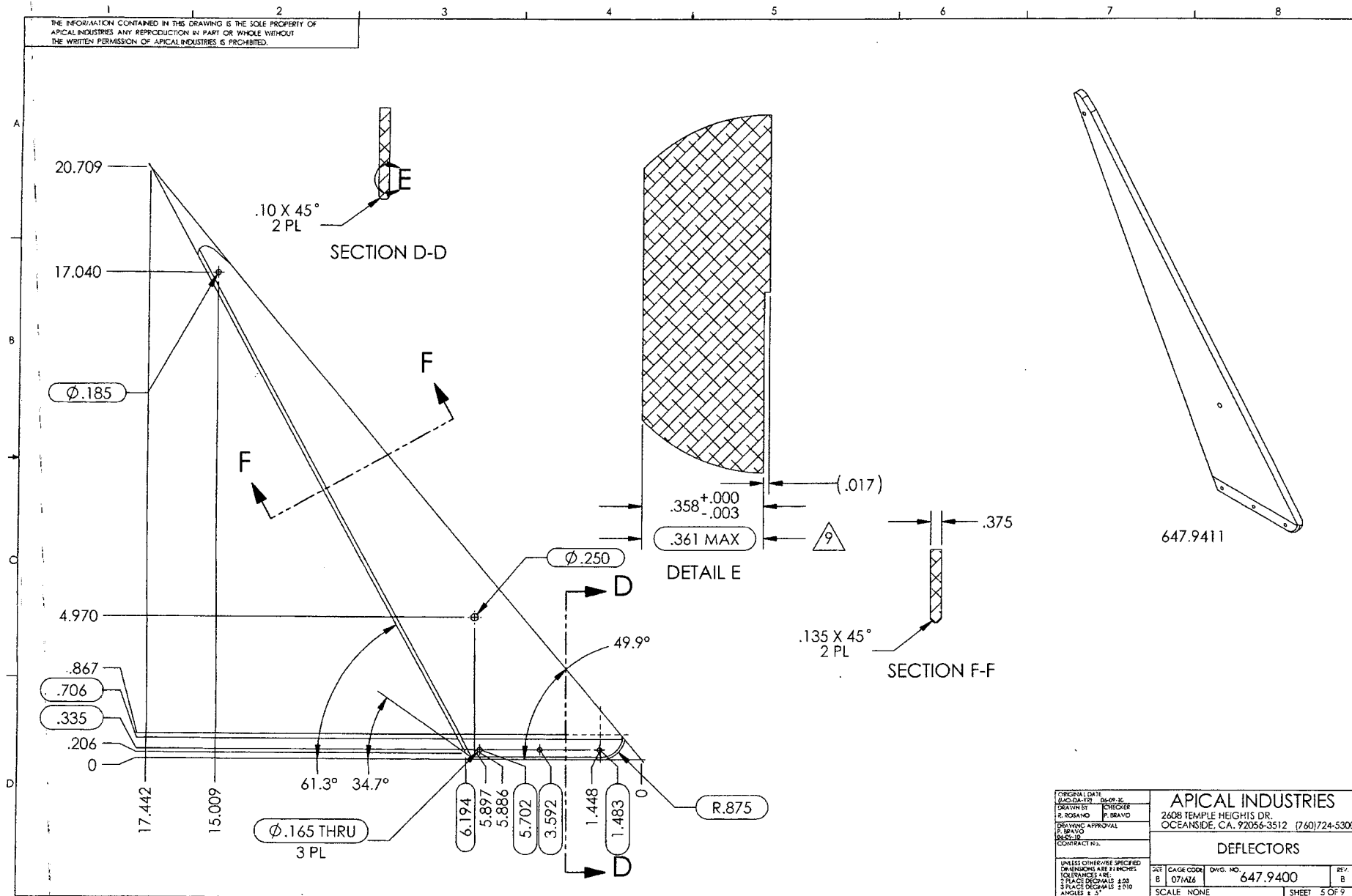
ORIGINAL DATE 06-09-10		APICAL INDUSTRIES	
DRAWN BY E. ROSANO		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
CHECKED BY P. BRAYC		DEFLECTORS	
DRAWING APPROVAL P. BRAYC		SCALE NONE	
CONTRACT NO.		SHEET 3 OF 9	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		SIZE B	REV. 8
		CAGE CODE 07M26	DWG NO. 647.9400

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ORIGINAL DATE (MM-DD-YY) 04-09-10		APICAL INDUSTRIES	
DRAWN BY: J. SCHULTZ		2608 TEMPLE HEIGHTS DR.	
R. ECKHARDT P. BRAVO		OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DRAWING APPROVAL P. BRAVO		DEFLECTORS	
DATE: 04-26-10			
CONTRACT NO.			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACES DECIMALS ±.010 3 PLACES DECIMALS ±.005 ANGLES ±.5°			
SIZE B	CAGE CODE 07HA26	DWG. NO. 647.9400	REV. B
SCALE: NONE		SHEET 4 OF 9	

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

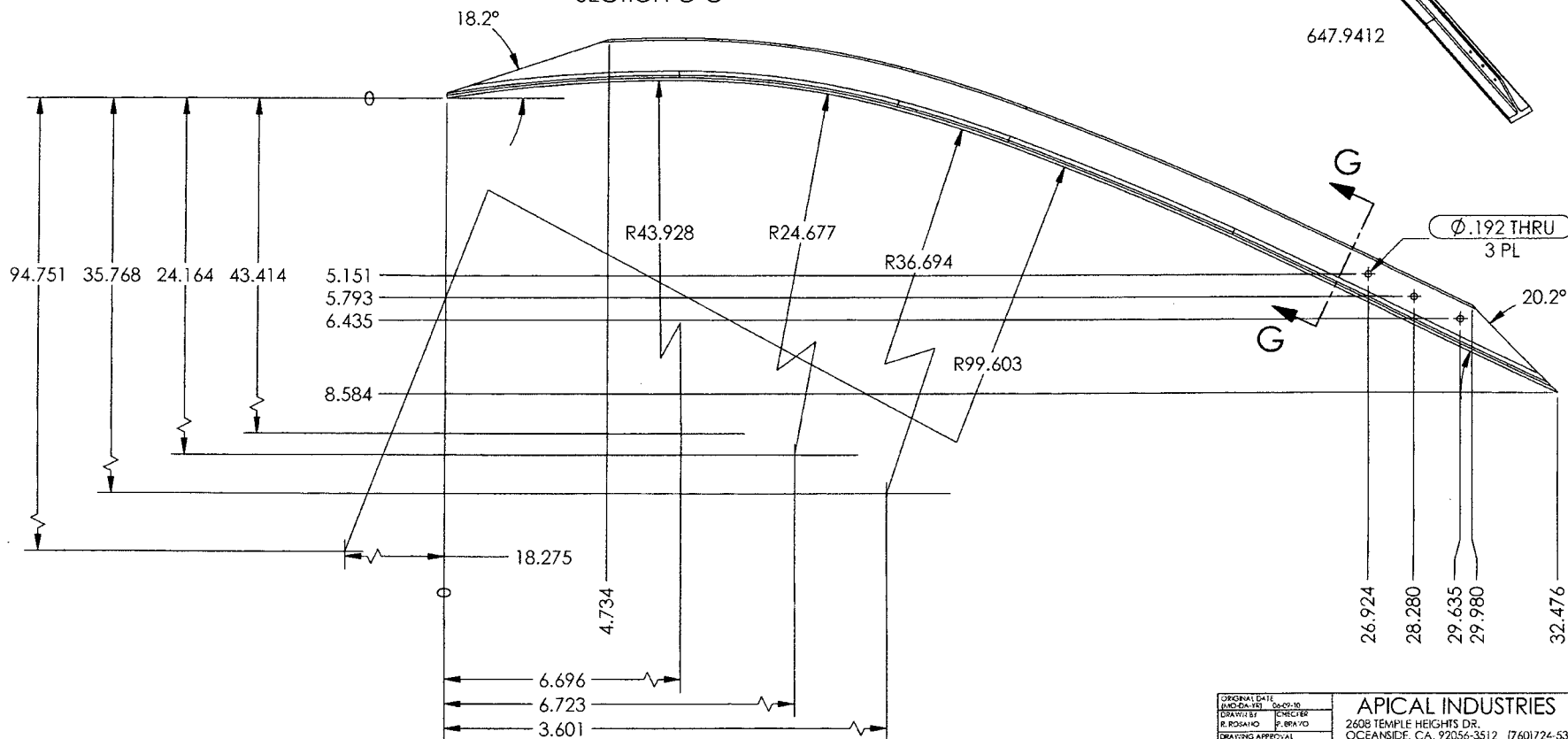
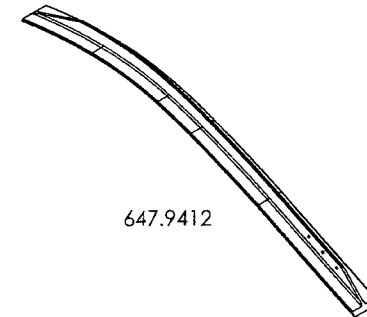
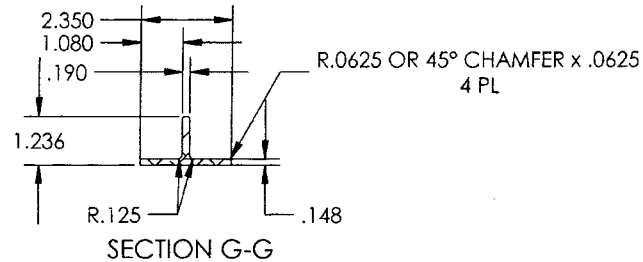


ORIGINAL DATE 11-01-81	06-09-86	APICAL INDUSTRIES			
DRAWN BY S. INOANO	CHECKED BY P. BRAVO	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300			
DRAWING APPROVAL P. BRAVO	06-09-86	DEFLECTORS			
CONTRACT NO.					
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1 PLACE DECIMALS ±.05 2 PLACE DECIMALS ±.010 ANGLES ±.5°		DATE B	CAGE CODE 07M16	DWG. NO. 647.9400	REV. B
		SCALE NONE		SHEET	5 OF 9

APICAL INDUSTRIES
2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760) 724-5300

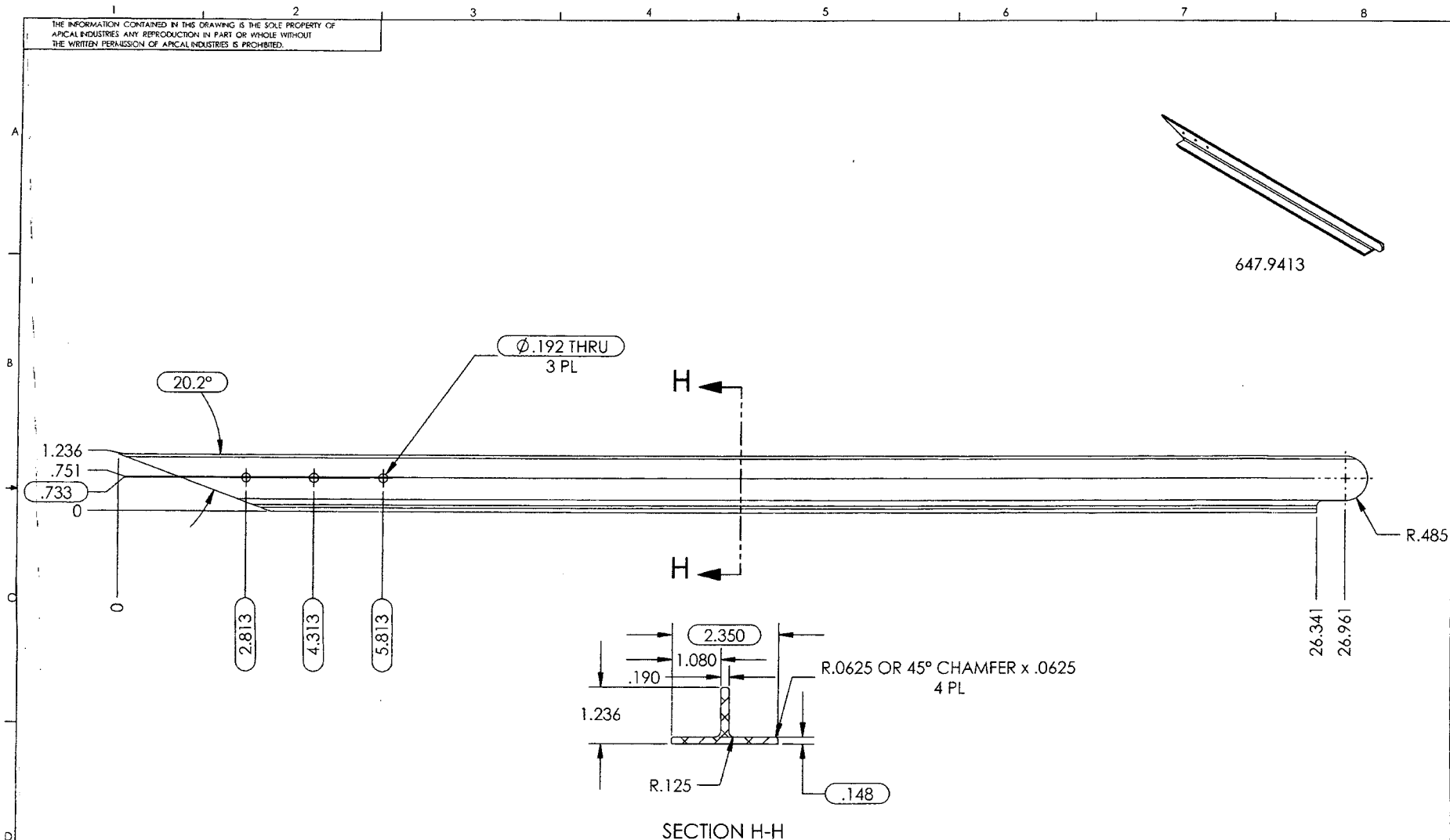
DEFLECTORS

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ORIGINAL DATE (MM-DD-YY) 06-09-10 DRAWN BY: J. ROSARIO CHECKED BY: P. BRAYO DRAWING APPROVAL P. BRAYO CONTRACT NO.		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 3 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.010 ANGLES ± .5°		DEFLECTORS SCALE NONE	
REV. B	CAGE CODE 07M16	DWG. NO. 647.9400	REV. B
SHEET 6 OF 9			

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SECTION H-H

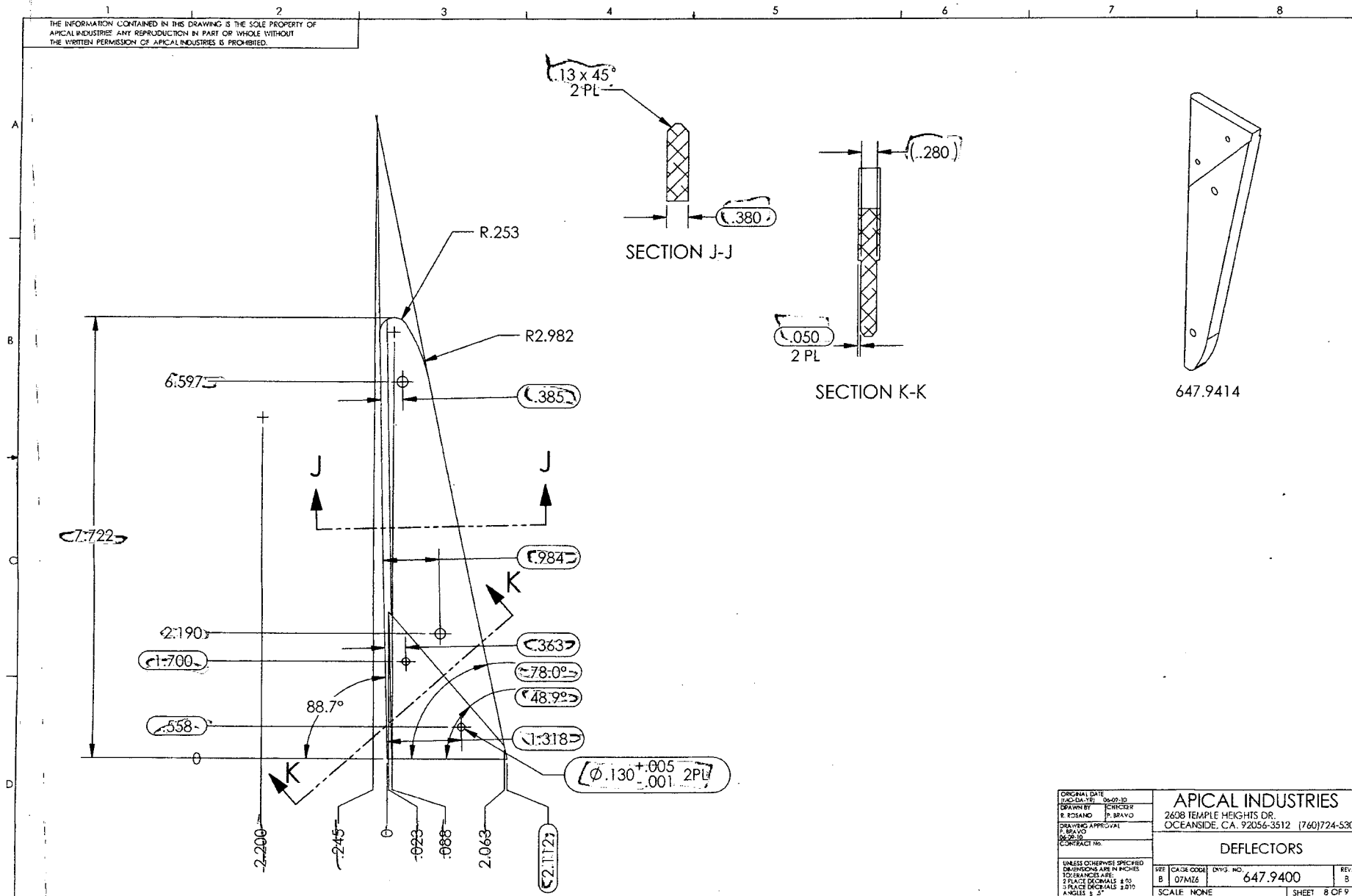
ORIGINAL DATE 11/01/81	GE. NO. 10	APICAL INDUSTRIES 2602 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DRAWN BY R. ROSAHO	P. BRAVO		
DRAWING APPROVAL P. BRAVO	GE. NO. 10		
CONTRACT NO.		DEFLECTORS	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.03 3 PLACE DECIMALS ±.010 ANGLES ±.5°			
SIZE B	CAGE CODE 07H26	DWG. NO. 647.9400	REV. B
SCALE NONE		SHEET 7 OF 9	

APICAL INDUSTRIES

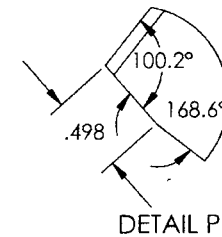
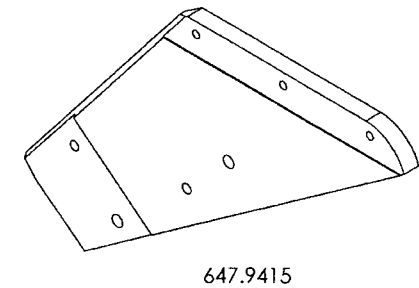
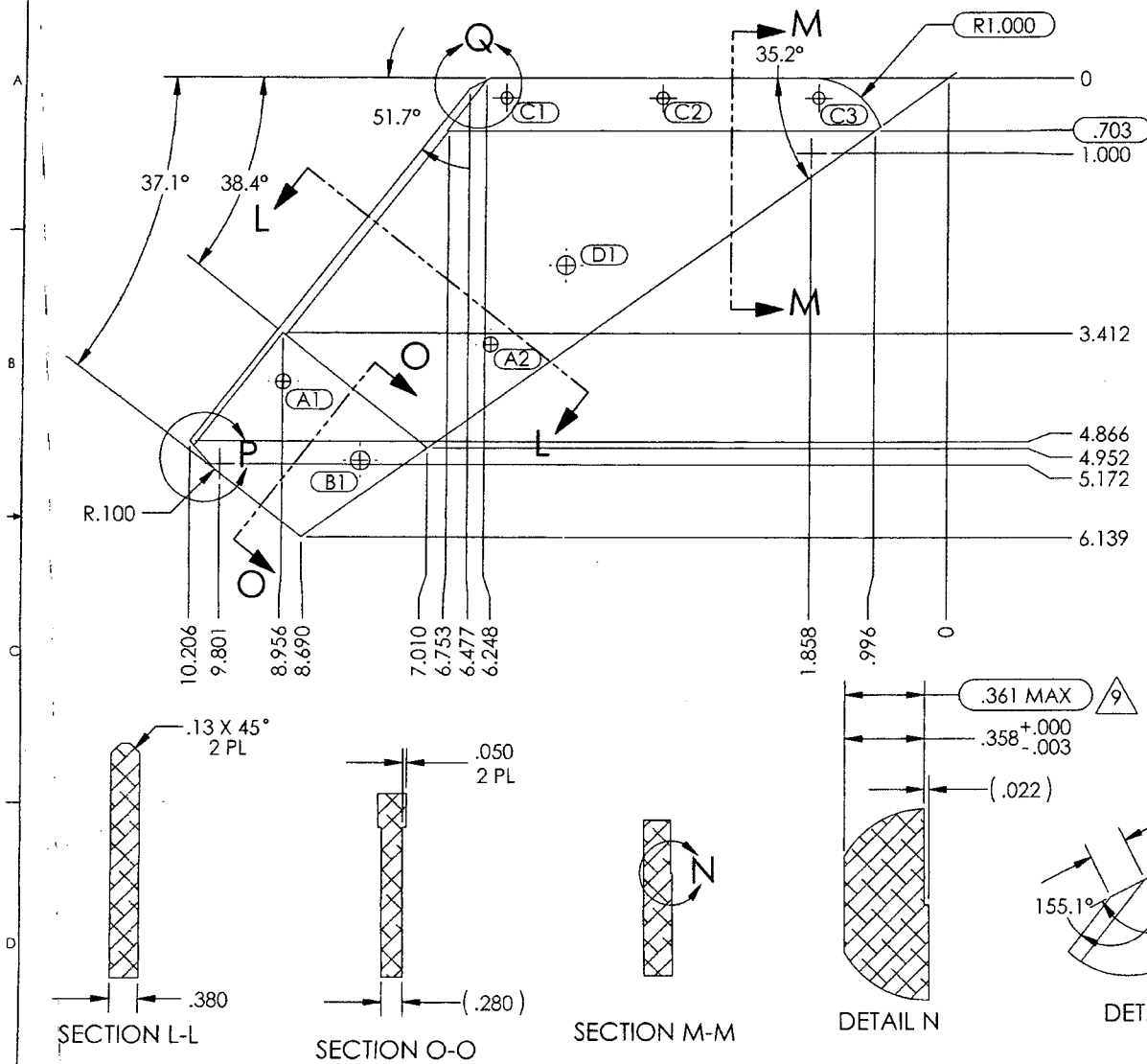
2602 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760) 724-5300

DEFLECTORS

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TAG	X LOC	Y LOC	SIZE
A1	-8.949	-4.066	Ø .201
A2	-6.172	-3.562	Ø .201
B1	-7.903	-5.121	Ø .253
C1	-5.978	-.267	Ø .165
C2	-3.863	-.267	Ø .165
C3	-1.758	-.267	Ø .165
D1	-5.159	-2.500	Ø .250

ORIGINAL DATE: 08-09-10 DRAWN BY: CHECKER E. ROSARIO P. BRAVO DRAWING APPROVAL: P. BRAVO CONTRACT NO.		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMAL: ±.03 3 PLACE DECIMAL: ±.01 ANGLES: ±.5°		SCALE: NONE	REV. 6
CAGE CODE: 07M16 DWG. NO. 647.9400		SHEET 9 OF 9	

DART AEROSPACE LTD	Work Order: 115733
Description: lower deflector, long tip	Part Number: 647.9414
Inspection Dwg: 647.9400 Rev: A	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
6.597	+ 0.05 -0.10	6.597	✓		vern	CNC-02
2.190	+ 0.05 -0.10	2.190	✓		-	SL-10
1.700	+ 0.05 -0.10	1.700	✓		-	
.558	+ 0.05 -0.10	.558	✓		-	
240 385	+ 0.05 -0.10	385	✓		-	
326 984	+ 0.05 -0.10	984	✓		-	
936 363	+ 0.05 -0.10	364	✓		-	
1306 1.318	+ 0.05 -0.10	1.319	✓		-	
2.112	+ 0.05 -0.10	2.114	✓		-	
Ø.130	+ 0.05 -0.001	.130	✓		-	
48.9°	+ 0.5 -0.5°	48.9	✓			
78.0°	+ 0.5 -0.5°	78.0	✓			
13X45°	+ 0.03 + 0.01 -0.5°	125X45°	✓			
380	+ 0.05 -0.10	379	✓		-	
050	+ 0.05 -0.10	050	✓		-	
280	+ 0.05 -0.10	279	✓		-	
7.722	+ 0.05 -0.10	7.723	✓		#G	CNC-02

Measured by: SL	Audited by: DAS 14 9-89	Preliminary Approval:
Date: 14-5-25	Date: 14/05/26	Date:

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

10.04.15

ACE

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER**Purchase Order ID PO24408****Purchase Order Date** 5/30/2014**PO Print Date** 6/4/2014**Page Number** 2 of 2**Order From :**

A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE ROAD
ROCKLAND, ON K4K 1T2
CANADA

VC-ATG001

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name**Vendor Phone**

613-446-4544

Buyer

Chantal Lavoie

Customer POID**Customer Tax #**

10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

Ship To Contact**Ship To Phone****Ship Via:**

VENDOR'S TRUCK

Ship Acct:

3	119760	D4973-1 UPPER CUTTER DEFLECTOR	6/2/2014	1.00	✓	\$12.05	\$12.05
---	--------	-----------------------------------	----------	------	---	---------	---------

Yes

6/4/2014

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE 1 CLASS N

Line Total:**\$12.05**

4 115733

647.9414 LOWER
DEFLECTOR

6/6/2014

21.00

✓

\$10.30

\$216.30

Yes

6/6/2014

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE 1 CLASS N

Line Total:**\$216.30****PO Total:****\$339.15**

SP14-6-4

CL

Note: Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Change Nbr: 2**Change Date:** 6/4/2014



A.T.G. Industries Inc.
731, rue Industrielle Rd.
PLATING DEPARTMENT
Rockland, On K4K 1T2
Canada
Ph: (613) 446-4544
Fax: (613) 446-4556

Pack List

Number: 63076

Date: 04-Jun-14

To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ship To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

Terms

Ship Via

Quantity

Description

1
lot

Part: ASST

Rev:

1 PC D4974-1 (10.80) ✓

1 PC D4973-1 (12.05) ✓

21 PCS 647.9414 (10.30) ✓

HARD ANODIZE BLACK
MIL-A-8625 TYPE III CLASS 2

PRIME MIL-P-23377J TYPE I CLASS N

PRICE IS PER PIECE

Job: 20140335

PO: 24408

Line:

SP14-6-4.

Certificate of Conformance

A.T.G. Industries certifies that all items in this shipment are in conformance
with all requirements, specifications and drawings referenced in the purchase order.

ISO 9001 : 2008 REGISTERED
ATG SALES-2010 TERMS APPLY

DATE:

4/6/14

CERTIFIED SIGNATURE:

RECEIVER SIGNATURE: